10054869

Third Five-Year Review Report

for the

Alpha Chemical Corporation Superfund Site

Kathleen, Polk County, Florida

May 2003

PREPARED BY:

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Date: 7/22/03

Five-Year Review Report

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List of Acronyms

CERCLA	Comprehensive environmental Response, Compensation and Liability Act of 1980
EPA	Environmental Protection Agency
FDER	Florida Department of Environmental Regulation
FDEP	Florida Department of Environmental Protection (formerly FDER)
NPL	National Priorities List
NCP	National Contingency Plan
PAH	Polynuclear Aromatic Hydrocarbons
POP	Project Operations Plan
RI/FS	Remedial Investigation/Feasibility Study
RD/RA	Remedial Design/Remedial Action
ROD	Record of Decision
SARA	Superfund Amendments and Preauthorization Act of 1986
VOC	Volatile Organic Compounds
WasteLAN	EPA's electronic database of potential hazardous waste sites

Executive Summary

EPA conducted the third statutory review of the Alpha Chemical Corporation Superfund Site in April 2003. The review included a site visit, interviews, data review and groundwater monitoring. The remedy, completed in 1989, was placement of a low permeability cap and surface and ground water monitoring. Concentrations of the three contaminants of concern have significantly decreased since the remedy was installed and they have remained below MCLs.

Because the remedial actions at all OUs are protective, the Site is protective of human health and the environment. No issues have been identified in any of the three Five-Year Reviews. Reviewers consistently note the conscientious attitude of AOC personnel in performing O&M activities at the site. AOC personnel continue to demonstrate their recognition of the importance of the remedy. Based on the results of the groundwater samples collected in the past 15 years, EPA believes that the Alpha Chemical Corporation Site no longer poses a risk to human health. The evidence presented in this report and the other Five-Year Review Reports strongly support the elimination of future groundwater monitoring. O&M of the cap should continue on a weekly basis, with special attention given to maintenance of the drainage swales.

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name *(from WasteLAN)*: Alpha Chemical Corporation

EPA ID *(from WasteLAN)*: FLD041495441

Region: 4	**State:** Florida	**City/County:** Kathleen, Polk

SITE STATUS

NPL status: ☐ Final ☒ Deleted ☐ Other (specify) _____

Remediation status (choose all that apply): ☐ Under Construction ☐ Operating ☒ Complete

Multiple OUs?* ☐ YES ☒ NO	**Construction completion date:** 09 /21 /1990

Has site been put into reuse? ☒ YES ☐ NO

REVIEW STATUS

Lead agency: ☒ EPA ☐ State ☐ Tribe ☐ Other Federal Agency _____

Author name: Barbara S. Dick

Author title: RPM	**Author affiliation:** US EPA

Review period:** 1 / 20 / 2003 to 7 / 22 / 2003

Date(s) of site inspection: 04/09/2003

Type of review: Statutory
☒ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only
☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
☐ Regional Discretion

Review number: ☐ 1 (first) ☐ 2 (second) ☒ 3 (third) ☐ Other (specify) _____

Triggering action:
☐ Actual RA Onsite Construction at OU #____ ☐ Actual RA Start at OU#____
☐ Construction Completion ☒ Previous Five-Year Review Report
☐ Other (specify) _____

Triggering action date *(from WasteLAN)*: 9 / 04 / 1998

Due date *(five Years after triggering action date)*: 9 / 04 / 2003

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

No Issues Identified

Recommendations and Follow-up Actions:

Based on the results of the groundwater samples collected in the past 15 Years, AOC should be allowed to discontinue groundwater monitoring at the site. Concentrations of the three contaminants have significantly decreased sine the remedy was installed and they have remained below MCLs. This evidence presented in this report and the other Five-Year Review Reports strongly support the elimination of future groundwater monitoring. O&M of the cap should continue on a weekly basis, with special attention given to maintenance of the drainage swales.

Protectiveness Statement(s):

Because the remedial actions at all OUs are protective, the Siteis protective of human health and the environment

Other Comments:

None

Five-Year Review Report

I. Introduction

The Purpose of the Review

The purpose of five-Year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and recommendations to address them.

Authority for Conducting the Five-Year Review

The United States Environmental Protection Agency (EPA) is preparing this five-Year review pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Preauthorization Act of 1986 (SARA). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five Years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The Agency interpreted this requirement further in the National Contingency Plan (NCP); 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five Years after the initiation of the selected remedial action.*

Who Conducted the Five-Year Review

An EPA Region 4, Atlanta, Remedial Project Manager in the South Site Management Branch conducted the five-Year review of the remedial actions implemented at the Alpha Chemical Corporation Site in Kathleen, Florida. This review was conducted in April 2003. This

report documents the results of the review. AOC (a.k.a. Alpha Resins Corporation and Alpha Corporation) personnel assisted with this review by conducting the groundwater sampling. CompuChem laboratories conducted the chemical analysis of the groundwater.

Other Review Characteristics

This is the third Five-Year review for the Alpha Chemical Corporation Site. The triggering action for this review is the date of the second five-Year review, as shown in EPA's WasteLAN database: September 4, 1998. This review is statutorily required because hazardous substances, pollutants, or contaminants were left onsite above levels that allow for unlimited use and unrestricted exposure.

II. Site Chronology

Table 1: Chronology of Site Events

Event	Date
Alpha Corporation builds a manufacturing plant in Galloway Florida and starts producing unsaturated polyester resins	1967
Two waste water ponds were built & permitted as percolation basins for natural biodegradation of organics	1967
Thermal oxidizer installed for treating waste stream; replaces use of the two ponds	1976
One waste water pond used as solid waste landfill for 1 Year	1977
Alpha Chemical Corporation Site is one of the first sites proposed for the NPL	1981
EPA finds groundwater contamination during site investigation	1982
FDER sampling verifies organic contamination of the surficial aquifer	1983
Alpha Chemical Corporation Site is placed on the first listing of NPL	September 1983
Alpha Resins Corporation starts the Remedial Investigation	1984
Alpha Resins Corporation's Endangerment Assessment concludes that contamination is confined to onsite	1986
Resampling of groundwater monitoring wells shows trend of decreasing contaminant levels	1987
Remedial Investigation/Feasibility Study made available to the public	February 1988

Table 1: Chronology of Site Events

Event	Date
RI/RS finalized and Record of Decision selecting the remedy signed	May 1988
Consent Decree finalizing settlement for responsible party performance of the remedy entered into federal court	May 1989
EPA and FDEP approve final Project Operations Plan and construction of the cap over the unlined pond	September 1989
Final onsite inspection conducted	October 1989
Fact Sheet informing public of remedial construction completion	January 1990
EPA signs Interim Close Out Report	September 1990
EPA conducts first Five-Year Review showing remedy functions as designed and remains protective	May 1994
EPA amends Close Out Report (final)	March 1995
EPA publishes notice of the Intent to Delete the Site from the NPL	May 1995
EPA deletes the Site from the NPL	June 1995
Second Five-Year review completed	September 1998

III. Background

The Alpha Chemical Corporation Site is located three miles north of Lakeland, Florida, at 4620 N. Galloway Road. Figures 1 and 2 provide the geographical location and Site layout. Currently, the Site boundaries encompass 32 acres of land in the SE 1/4, Section 28, Township 27 S, Range 23 E of Polk County, Florida.

Land and Resource Use

Prior to the plant construction in 1967, the land was used primarily for agricultural purposes. No previous industrial practices are known to have taken place. Since 1967, the plant on the Site has produced unsaturated polyester resins for other manufacturers who produce fiberglass boats, shower stalls and other construction and recreation products.

The Site lies on a ridge in the Hillsborough River drainage basin. Surface water from the Site drains into a swampy, low-lying wetland area at the property's southeastern corner. Water drains from the swamp in a east - northeast direction to a bayhead east of Galloway Road.

There are two aquifers of concern at the Alpha site: the surficial aquifer and the deeper, artesian Floridan aquifer. The surficial aquifer exists in the varying layers of clayey sand and sandy clay underlying the Site at depths between 2 feet and 16 feet below the surface. Groundwater in the surficial aquifer flows toward the south - southeast. Ground water flow in the surficial aquifer is limited to down gradient and lateral flow with only minor vertical percolation downward due to the confining, impermeable clays and marls of the Hawthorn formation.

The Floridan aquifer begins at depths from 95 feet to 100 feet below the ground surface. This aquifer serves as the area's main groundwater supply. A well inventory in the immediate area determined groundwater flow toward the south. The Floridan aquifer is an artesian system due to the confining nature of the overlying, relatively impermeable sediments.

History of Contamination

During the plant's manufacturing process, unsaturated polyester resins form from the esterification reaction of various difunctional organic alcohols and acids, which yields ester salts and corresponding water (wastewater). Within this wastewater stream exist small amounts of volatile organic compounds (VOCs). From 1967 until 1976, the wastewater was discharged to an onsite unlined surface impoundment. In 1976 a thermal oxidizer was installed to treat the wastewater. Alpha Chemical Corporation used one of the wastewater ponds as a solid waste landfill for a Year, and subsequently covered it with two feet of soil. The other pond, was divided in half by a dam and water and sludge were pumped from one half to the other. The drained half was lined with concrete to store and evaporate caustic floor wash waste from the plant. The other half was identified as a source of contamination in several investigations by the State and EPA between 1982 and 1984. Contaminants identified in soil and ground water were the same VOCs found in the wastewater. EPA placed the Site on the National Priorities List (NPL) in 1983.

Initial Response

There were no interim or removal actions at the site.

Basis for Taking Action

Ethylbenzene was identified as the most prevalent contaminant at the site, both in concentration and in the number of samples in which it was detected. It, along with xylene and styrene exceeded drinking water standards. Other organic priority pollutants included phthalates, halogenated and non-halogenated VOCs, phenols, polynuclear aromatic hydrocarbons (PAHs), and non-priority pollutants such as benzyl alcohol and benzoic acid. Contamination was identified in the onsite surficial aquifer and EPA concluded that there was the potential for off-site migration of contaminants. The pathway of greatest concern was the groundwater migration of contaminants via the surficial aquifer.

IV. Remedial Actions

Remedy Selection

The ROD for the Alpha Chemical Corporation Site was signed on May 18, 1988. The selected remedy placed a low-permeability cap over the unlined pond area to reduce percolation of atmospheric precipitation into the unlined pond, vertical migration of water through the remaining pond sediments, and leachate production into the surficial aquifer. In addition, long-term monitoring of the surficial aquifer assures that the remedy remains effective and that contaminant levels in the ground water meet Applicable and Relevant or Appropriate Requirements (ARARs). Three of the five contaminants of concern were identified in the ROD for periodic groundwater monitoring: xylene, styrene and ethylbenzene. ARARs for these three contaminants of concern in groundwater were the Recommended Maximum Contaminant Levels (MCLs). The ROD also required surface water monitoring to be conducted to confirm surface water ARARs were being attained and specified surface water values for ambient criteria for protection of fresh water life for five contaminants. The contaminants were the three mentioned above and benzoic acid and 1,2-dichloropropane. A Contingency Plan assures that in the unlikely event that conditions worsen, the situation will be addressed in an effective and appropriate manner based on the results of an additional focused evaluation of all remedial alternatives

Regulatory Actions

A consent decree between EPA and Alpha Resins Corporation was entered into court in May 1989 requiring Alpha Resins Corporation to perform the remedial design/remedial action under EPA oversight. Four months later, EPA and FDER approved the final Project Operation Plan submitted by Alpha which detailed the RD/RA. The POP described the capping of the unlined pond with a synthetic low permeability cap and the monitoring of groundwater and surface water.

Remedy Implementation

Alpha Resins Corporation followed the procedure detailed in the RD/RA POP. Cap construction was designed to meet the goals of the selected remedy and closely paralleled Resource Conservation and Recovery Act (RCRA) guidance. The unlined pond was dewatered and then filled with clean clay soil. Soil was placed in lifts of approximately 6 inches prior to compaction. A synthetic low-permeability liner was placed over the compacted fill material. Layers of drainage material, filter fabric, and topsoil were placed over the synthetic liner. Perimetrical drainage swales were installed about the cap and two drainage ditches excavated to accept drainage from the swales; these drained to the south into the swamp.

The cap surface was seeded and drainage ditches were sodded to immediately preclude erosional damage to the cap. Shortly thereafter, the cap was sodded as additional protection from possible hurricane damage.

The POP contained an outline for the quarterly surface water and groundwater sampling starting immediately after the capping action. Eight surficial aquifer wells and one deep Floridan well downgradient from the source of contamination were to be monitored for groundwater quality. The marsh and the culvert were also identified for surface water quality sampling. All samples are collected onsite. When the ROD was issued in May 1988, the Agency had established Recommended MCLs for the three contaminants of concern identified for monitoring. The Recommended MCLs were defined in the proposed National Primary Drinking Water Regulation of 1985. The Recommended MCLS were also used as cleanup goals in the POP. Since then EPA has established MCL Goals and MCLs for these contaminants. Table 2 shows the change in the protective groundwater values for the contaminants.

Table 2: Contaminants of Concern and Protectiveness Values

Contaminant	Recommended MCL (ug/l)	MCL Goal (ug/l)	MCL (ug/l)
Xylene	440	10,000	10,000
Styrene	140	100	100
Ethylbenzene	680	700	700

Surface water monitoring for the five contaminants was conducted to confirm surface water ARARs were being attained, as specified by each contaminant's surface water values for ambient criteria for protection of fresh water life.

Operations & Maintenance (O & M)

The consent decree contains a requirement for deed restrictions prohibiting disturbing the integrity of the cap or the function of the monitoring system. Further O & M activities were detailed in the July 1989, O & M Plan, and the Revised August 22, 1989, POP/ QAPP. These activities include routine inspections of the monitoring wells and the cap. The cap inspections continue to ensure the integrity of the cap and drainage construction. The cap is also inspected for evidence of erosion,. Alpha is responsible for designing, conducting, and funding O&M activities. O&M checklists, completed by Alpha's Regulatory Affairs Coordinator describe the condition of the cap and actions taken to address any problem. Checklists are submitted to EPA and have shown the cap to be performing as designed. Currently, AOC submits these checklists semi-annually.

Close Out for Long-Term Response Action

A 1990 Interim Close Out Report and a subsequent 1995 Amended Close Out report for Long-Term Response action at the Alpha Chemical Corporation Site provided information to satisfy final completion requirements. The three contaminants that were required to be monitored had decreased significantly since the remedial action. Styrene levels in the groundwater were below MCLs and the other two contaminants of concern, xylene and ethylbenzene, had attained their respective Recommended MCLs.

In the surface water, all five contaminants were confirmed to be below the surface water values cited in the ROD. ARARs at the time of Close Out were Florida Surface Water Quality Criteria and the Federal Ambient Quality Criteria; however, no state or federal criteria values had been designated for any of the five contaminants. Freshwater quality screening values for 1,2-dichloropropane and ethylbenzene had been established by Region IV Waste Management Division and neither of those two contaminants had been found in surface water above the screening values. The data reviewed for Close Out demonstrated the effectiveness of the source control remedy and the decreasing trend of surface and groundwater contaminants to levels below health-based levels.

V. Previous Five-Year Reviews

Both of the two Five-Year Reviews, in 1993 and 1998, confirmed that the remedy remained protective of human health and the environment, and that ARARs were being met. The cap's integrity had not been comprised and the groundwater and surface water contaminants were below or nearly below cleanup levels. Overall, by the time of the second Five-Year Review all contaminants of concern remained well below their designated MCLs.

VI. Third Five-Year Review Process

Administrative Components

Five-Year Reviews are mandatory for this Site due to the fact that waste was left in place beneath the cover. In January 2003, EPA's Project Manager, Barbara Dick, contacted Martin McLeod, Regulatory Procurement Supervisor at AOC, to notify him of the upcoming Five-Year Review. AOC is the current name of the company located on the Alpha Chemical Corporation Site. The company was originally called Alpha Resins and then Alpha Chemical, both of which were owned by Alpha Corporation. Then in 1994 when Owens Corning bought Alpha Corporation, the company was referred to as AOC. In 1998, Alpha Corporation purchased the former Alpha Corporation portion of the Alpha Owens Corning Corporation back and the AOC name remains to this day. Mr. McLeod has been working at the company since the time of the ROD and was the responsible party representative during the second Five-Year Review. The onsite visit, interview, and annual monitoring was scheduled for April 9, 2003.

Community Involvement

EPA published an announcement in the local paper, "The Ledger". The announcement stated the purpose of the review, the schedule for the review, and the location of site documents. It also solicited comments relative to the Site and provided the EPA project manager's name and contact information. EPA also verified the availability of current Site information at the designated public repository, Lakeland Library, Lakeland, Florida. No comments were received.

Document Review

This Five-Year Review consisted of a review of relevant documents, including O&M records and monitoring data and a review of all applicable surface water and groundwater ARARs for the five contaminants of concern. Table 3 shows the reviewed items.

Table 3: Reviewed Documents

Document Name	Date
Record of Decision	May 1988
RD/RA Project Operations Plan	September 1989
Interim Close Out Report for Long-Term Response Action	September 1990
Five-Year Review Report	February 1994
Amended Close Out Report	March 1995
Five-Year Review	September 1998
Groundwater sampling data - Letter from Martin McLeod, AOC, to EPA	August 3, 2000
National Primary Drinking Water Standards	
Semi-Annual O&M Site Reports	August 22, 2002 February 24, 2003

Data Review

EPA reviewed sampling data from November 1984 to present. Since the last Five-Year Review in 1998, AOC has collected samples once in July 2000 and in April 2003. All three contaminants of concern monitored in the groundwater were below their respective EPA National Primary Drinking Water Standards. This is consistent with previous data at the site. Groundwater concentrations of xylene have been below its Recommended MCL and MCL for over 10 Years in all monitoring wells being monitored. Since one detection at 100 ug/l in 1990, styrene has been below both its Recommended MCL and MCL. Concentrations of ethylbenzene in the groundwater have been below the Recommended MCL and MCL since 1991, with the exception of a detection of 690 ug/l in December 1992 and 1200 ug/l in June 1994. Clearly, this indicates that the remedy is acting according to design.

Groundwater monitoring has been conducted at the Alpha Chemical Corporation Site since the middle 1980s. See Table 4 for the concentrations of the three monitored groundwater contaminants over the past 10 years. A sample of groundwater was collected and analyzed from each of the monitoring wells at the Site on April 8 and 9, 2003 by AOC personnel. No contaminants exceeded their guidance levels. Monitoring has shown the decreasing trend of the contaminants of concern and the attainment of the drinking water standards. The drop in concentration was likely a result of the source control remedy and natural attenuation processes.

Table 4: Results of Groundwater Monitoring
E: Ethylbenzene, S: Styrene, X: Xylene

	Dec 1993	June 1994	Nov 1994	July 2000	April 2003
AC 105	E: -* S: -* X:-*	E:-* S:-* X:-*	E:-* S:-* X:-*	E: 1 U S: 1 U X: 1 U	E: 0.50 U S: 0.50 U X: 0.50 U
AC 106	E: 29 S: 10 U X: 8 J	E: 1200 S: 100 U X: 100 U	E: 55.94 ER S: 1.00 U X: 7.8	E: 240 ER S: 5 U X: 5U	E: 16 B S: 0.16 J X: 1.2 B
AC 106Dup	E: -* S: -* X: -*	E: -* S: -* X: -*	E: -* S: -* X: -*	E: 230 D S: 13 U X: 13 U	E: -* S: -* X: -*
AC 107	E: 10 U S: 10 U X: 2 J	E: 10 U S: 10 U X: 3 J	E: 1.00 U S: 1.00 U X: 0.60	E: 0.2 J S: 1 U X: 0.8 J	E: 0.047 J S: 0.50 U X: 0.066 J

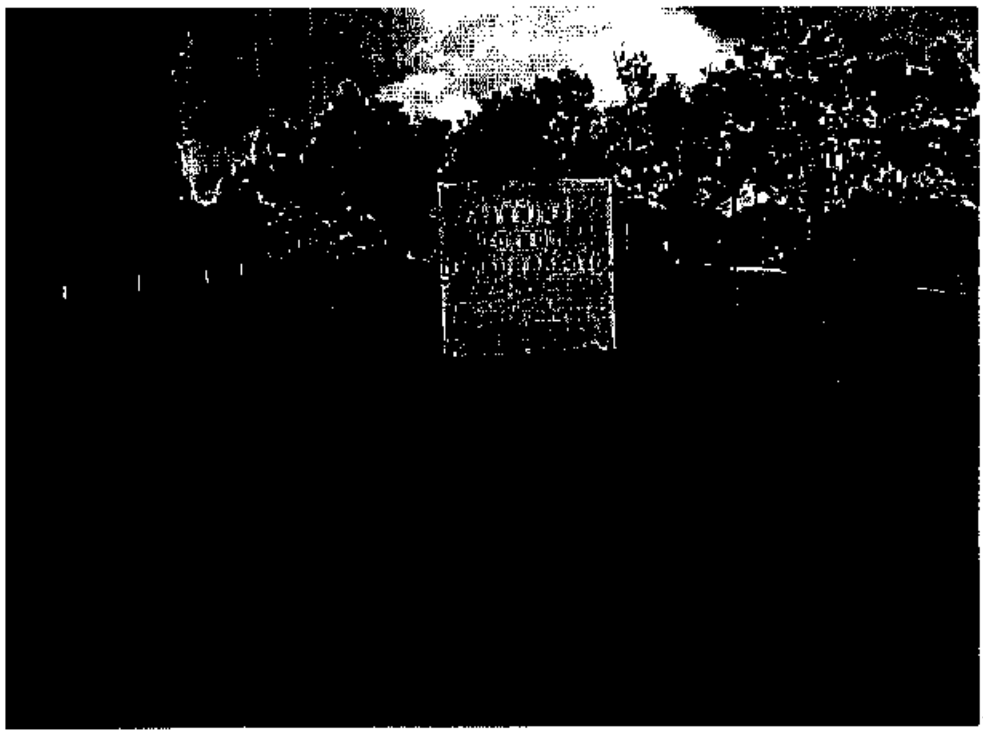
All results in ug/l
-* Not Sampled
D Identified at a Secondary Dilution Factor
U Compound Not Detected at Detection Limit
ER Identified Concentration Exceeding the Calibration Range, Diluted & Re-Analyzed
J Estimated Value
B Compound found in the blank as well

Site Inspection

The EPA Project Manager, Barbara Dick, conducted the Site inspection on April 9, 2003. Participants included the AOC representative mentioned above, Martin McLeod. During the Site visit, EPA and AOC made a careful inspection of the landfill cap. The cap is covered with grass that is mowed and watered regularly. There is no evidence of erosion on the cap and areas around the drainage swales and discharge pipes showed no signs of deterioration due to erosion. Signs reading "Do Not Disturb the Soil" are also clearly posted around the landfill cap area. Monitoring wells are securely locked and remain in good repair. The identification markings on the well casings are clearly visible and correspond with map locations. (See photos on page 10.)

Interviews

The EPA Project Manager interviewed Mr. McLeod during the Site visit on April 9, 2003. He verified that no major problems have occurred at the Site during the third Five-Year Review period. Mr. McLeod explained the steps AOC takes to maintain the cap as an effective



remedial barrier action. These steps include re-seeding bare spots on the cap when necessary, controlling fire-ant mounds on the cap and keeping all monitoring wells accessible.

VII. Technical Assessment

Whether the Remedy is Effective and Functioning as Designed

The review of documents and ARARs, and the results of the Site inspection indicate that the remedy is functioning as intended by the ROD. The capping of the unlined pond and construction of the drainage system has achieved the remedial objectives to minimize the migration of contaminants to groundwater and surface water. The groundwater monitoring verifies that the groundwater migration pathway is no longer a pathway of concern. The institutional controls for deed restriction will preserve the effectiveness of the remedy in the future. Operations and maintenance of the cap and drainage structures has been effective and monitoring wells have maintained their integrity.

Whether the Exposure Assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives (RAOs) used at the time of the Remedy Selection are Still Valid

There have been no changes in the physical conditions of the Site that would affect the protectiveness of the cap. The First Five-Year Review noted the change in one of the ARARs mentioned in the ROD, the National Safe Drinking Water Act. The Act provides the MCLs for which water samples are judged for compliance. The ROD cited Recommended MCLs for the three contaminants of concern that were available at that time. Since that time, EPA has established MCLs and MCL Goals for each of the contaminants. While the MCL modifications for ethylbenzene and styrene have been slight (680 ug/l to 700 ug/l and 140 ug/l to 100 ug/l, respectively), the Recommended MCL of xylene was 440 ug/l and the current xylene MCL is 10,000 ug/l.

The Second Five-Year Review noted the change in another ARAR listed in the ROD, Chapter 17-3 of the Florida Administrative Code. According to the Florida DEP, Water Quality Standards, previously included in Chapter 17-3, now are listed in Chapter 62-520. Relevant standards are also listed in 62-550, -770, -785. The changes of interest applicable to the Site are the addition of secondary MCL standards within the Florida Drinking Water Standards. Two of the three contaminants of concern have secondary standards: ethylbenzene (30 ug/l) and xylene (20 ug/l).

These changes in ARARs do not affect the protectiveness of the remedy. The primary standards determine protectiveness of human health and the environment. Groundwater sampling at the Site continues to demonstrate that levels of contaminants are below primary MCLs.

Lastly, there has been no change to the exposure assumptions or other factors that would

affect the risk assessment methodology used at the time of the ROD. The remedy is acting as designed and the groundwater is no longer contaminated.

Other Information Affecting the Protectiveness of the Remedy

There is no other information that calls into question the protectiveness of the remedy.

Technical Assessment Summary

According to the data reviewed, the Site inspection, and the interviews, the remedy is functioning as intended by the ROD. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. ARARs cited in the ROD have been met. There have been no changes in the factors used in the risk assessment methodology that could affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

VIII. Issues

No issues were identified during the technical assessment or the other Five-Year Reviews. Reviewers consistently note the conscientious attitude of AOC personnel in performing O&M activities at the site. AOC personnel continue to demonstrate their recognition of the importance of the remedy.

IX. Recommendations and Follow-up Actions

Based on the results of the groundwater samples collected in the past 15 Years, AOC should be allowed to discontinue groundwater monitoring at the site. Concentrations of the three contaminants have significantly decreased sine the remedy was installed and they have remained below MCLs. The evidence presented in this report and the other Five-Year Review Reports strongly support the elimination of future groundwater monitoring. O&M of the cap should continue, with attention given to maintenance of the drainage swales.

X. Protectiveness Statement(s)

The remedy for the Alpha Chemical Corporation Site is protective of human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled.

XI. Next Review

Because of the remedy selection in the ROD, the Five-Year Review is a statutory requirement. The next Five-Year Review for the Alpha Chemical Corporation Site is due in five years or by July 2008.